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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,625	05/24/2006	Raymond J. E. Hueting	GB03 0212 US	4378

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Intellectual Property and Licensing  
NXP B.V.  
411 East Plumeria Drive, MS41  
SAN JOSE, CA 95134

EXAMINER
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HSIEH, HSIN YI

ART UNIT	PAPER NUMBER
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2811

NOTIFICATION DATE	DELIVERY MODE
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02/03/2012

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

<b>Advisory Action</b> <b>Before the Filing of an Appeal Brief</b>	<b>Application No.</b> 10/580,625	<b>Applicant(s)</b> HUETING ET AL.
	<b>Examiner</b> HSIN-YI HSIEH	<b>Art Unit</b> 2811

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 25 January 2012 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

a) ☐ The period for reply expires \_\_\_\_\_ months from the mailing date of the final rejection.

b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**NOTICE OF APPEAL**

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

**AMENDMENTS**

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because

(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);

(b) ☐ They raise the issue of new matter (see NOTE below);

(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or

(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).

5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.

6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: \_\_\_\_\_.

Claim(s) objected to: \_\_\_\_\_.

Claim(s) rejected: 1-21.

Claim(s) withdrawn from consideration: \_\_\_\_\_.

**AFFIDAVIT OR OTHER EVIDENCE**

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).

9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).

10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

**REQUEST FOR RECONSIDERATION/OTHER**

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:  
See Continuation Sheet.

12. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). \_\_\_\_\_

13. ☐ Other: \_\_\_\_\_.

/LYNNE GURLEY/ Supervisory Patent Examiner, Art Unit 2811	/Hsin-Yi (Steven) Hsieh/ Examiner, Art Unit 2811
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Continuation of 11. does NOT place the application in condition for allowance because: Applicant's arguments filed 01/25/2012 have been fully considered but they are not persuasive.

On pages 8-12 of Applicant's Response, Applicant argues that: 1) the doping gradient is not recognized as a results-effective variable; 2) the cited references teach away from the office Action's proposed combination; and 3) the Examiner fails to provide proper motivation for the modification.

The Examiner respectfully disagrees with Applicant's argument. Firstly, the doping gradient is a results-effective variable. The '455 reference teaches in the paragraph [0053] that: "Therefore, the impurity concentration of the drift layer 12 can be increased toward the substrate 11. This makes it possible to decrease the ON voltage as compared with a structure in which the impurity concentration of the drift layer 12 is uniform." The doping gradient, i.e. the increase of impurity concentration of the drift layer 12 toward the substrate 11, decrease the ON voltage as compared to a uniform impurity concentration. Thus the doping gradient, i.e. the increase of impurity concentration of the drift layer 12 toward the substrate 11, is a results-effective variable.

Secondly, the '455 reference does not teach away the combination. The '455 reference teaches a preferred embodiment and a specific example that the first insulating film 16 (i.e., the asserted field plate insulator) is thicker than the second insulating film 18, but does not teach any reason that the thickness of the gate-field plate insulator cannot be greater than or equal to the thickness of the field plate insulator. It is very common for the inventor to disclose a preferred embodiment in his invention but in no way the inventor is teaching away all other embodiments not included in the preferred embodiment. In the same way, the applicant specified in the instant application a preferred embodiment of the doping concentration of the drift region is such that the doping concentration adjacent to the drift region is higher than the doping concentration adjacent to the body region by a factor of at least 100, and further preferably at least 200 (page 3, lines 15-19 of the specification of the instant application). This disclosure does not teach away a factor of at least 100 because it is less preferable and also does not teach away another embodiment of a factor of at least 50 (page 3, lines 6-10 of the specification of the instant application). Secondly, the examples are given to show the details of the embodiments and are not intended to limit the scope of the invention. An example in the reference does not teach away other examples with different values. Most importantly, '455 reference teaches that the thickness of the gate-field plate insulator 18 is determined by a threshold voltage and the thickness of the field plate insulator 16 is determined by a breakdown voltage. Thus the thicknesses of these two layers depend on the application and for some applications (e.g. high threshold voltage and low breakdown voltage), the thickness of the gate-field plate insulator can be greater than or equal to the thickness of the field plate insulator using the method shown by '455 (paragraph [0031]). Thus '455 do not teach away from the asserted modification by leading in a direction divergent from the path that was taken by the Applicant.

Thirdly, in response to applicant's argument that there is no teaching, suggestion, or motivation to combine the references, the examiner recognizes that obviousness may be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988), *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992), and *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007). In this case, the examiner provides the motivation in the office mailed on 06/09/2011 that Peake et al. teach that a relative thick insulating layer is needed between the field plate and the gate to withstand the potential difference therebetween as a bias potential is applied to the field plate (paragraph [0032]). It would be obvious for a person skill in the art to use the gate-field plate insulator being thicker than the field plate insulator..